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ABSTRACT

This report covers the first five months of the Sedro Wolley project which has been designed by representatives from Huxley College, the Sedro Wooley School District, and the Northwest Environmental Education Center as an experimental model. The project proposes to investigate through action at the school district level the nature and content of environmental education and to develop a K-12 environmental education program that will be useful to other districts in Washington and other regions. The proposed steps in the project include: retraining of teachers, involvement of students, development of curriculum and implementation of the program. A narrative discussion of the first step is presented in this report. To date the primary effort has been to orient teachers to environmental issues and to determine those skills which will be of greatest use to them in restructuring the curriculum. The teachers' seminar found that an extensive restructuring of grade units, administrative units, daily and annual school schedules, disciplines, and teacher-training programs may be necessary to respond adequately to the challenge of the environmental problems of today. Future activities and specific findings of the project are also discussed. (Author/DJB)

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Name of project director: John C. Miles

SUMMARY

The Sedro Woolley project has been designed by people from Huxley College, the Sedro Woolley School District, and the Northwest Environmental Education Center as an experimental model. The project proposes to investigate through action at the school district level the nature and content of environmental education and to develop a K-12 environmental education program that will be useful to other districts within the state of Washington and to other regions. It will develop this district pilot program in the following ways: retraining of teachers, involvement of students, development of curriculum, and implementation of the program. To date the primary effort has been to orient teachers to environmental issues and to determine those skills which will be of greatest use to them in restructuring the curriculum.

A group of twenty-five teachers, most of whom are from the pilot district, are investigating, through a weekly seminar, the meaning and scope of environmental education, a necessary prerequisite to redesigning a K-12 curriculum. The teachers represent a broad range of disciplines and grade levels. When work on the curriculum design phase begins, each of the teachers will concentrate on his particular discipline for his particular grade level(s). The seminar group has been addressed by a number of specialists whose fields affect or are affected by problems under discussion. As the task of curriculum construction proceeds, an increasing number of resource personnel will be called on to assist with individual efforts.

A battery of tests was given to the teachers participating in the seminar prior to the first seminar session. The tests included a measurement of basic assumptions, one of values, and one of environmental awareness. The latter test was designed specifically for this project. This pre-test was also given to a control group, i.e., teachers from another district who represent the same disciplines and grade levels. Both groups will again be administered the battery of tests upon completion of the retraining program, in late Spring 1971. It is expected that attitudinal changes within the seminar group will be considerably greater than in the control group, using this instrument as a measure.

The root of the environmental problem to which the project is a response lies buried in complex and fundamental cultural and socio-cultural

values that are transmitted in part to children through their public education experience. New curricula may be required to change ways in which students perceive their environment: an experimental, field-oriented curriculum may be one important method of increasing the environmental perception skills of the student. Several teachers in the seminar group have begun designing projects to implement a field-oriented program.

The findings of the seminar group to date indicate that an extensive restructuring of grade units, administrative units, daily and annual school schedules, disciplines, and teacher-training programs may be necessary to respond adequately to the challenge of the environmental problems of today. The project, through its experimentation with curriculum design, hopes to contribute to an effective response by testing new approaches within the pilot district.

MAJOR ACTIVITIES AND ACCOMPLISHMENTS DURING THIS PERIOD

Work on the project began September 1, when the project director was appointed. Prior to that date, staff members and the director of the Northwest Environmental Education Center spent some time in Sedro Woolley making physical arrangements for the project and conferring with the school district staff about the form and direction of the program. The first task was to select a group of twenty-five interested and motivated teachers to participate in the teacher training program that is the core of the first part of the project. Thirty applicants responded to a memo sent through the Sedro Woolley School District. The director interviewed each of these people at length and selected twenty-one teachers from Sedro Woolley to participate. Four other teachers from outside the district were selected: one from Tacoma, two from Oak Harbor, and one from Burlington. The seminar group assembled on October 1 to begin work.

An aspect of the program demanding immediate attention was the design of tests to measure attitudinal and behavioral responses among the populations involved in the project. The most important of these tests was an instrument to pre-test the teachers participating in the seminar. The University of Washington Bureau of Testing was consulted and contracted to design an environmental awareness survey for the pre- and post-testing of the teachers involved. At the first meeting of the seminar group the teachers were given a battery of tests that included this "Environmental Awareness Survey," designed for the project by Lunneborg, Lunneborg, and Mitchell of the University of Washington, along with Levit and Morrison's "Test of Basic Assumptions," and the "Study of Values" designed by Allport, Vernon, and Lindzey. A few weeks later, the same battery of tests was given a control group of teachers in the nearby Marysville School District, corresponding in disciplines and grade levels to those in the Sedro Woolley District. The same two groups of teachers will be post-tested in June at the conclusion of the seminar, to measure attitudinal and behavioral changes.

The major effort in the project to date has been concentrated on the teacher-training seminar. Since the whole project revolves around the work this group of teachers will do, the project director is working to develop in them a feeling for the nature of the task at hand. They must first perceive the scope and complexity of the problems posed by the environ-

mental crisis, to which any environmental education program must be a response. Because environmental education is a new field, a considerable review of the literature has been necessary before directly attempting new teacher-training methods. The approach that has been taken in the seminar is to prompt self-examination of levels of environmental perception within which each participant operates, by means of audio and visual perception exercises in the classroom. The seminar group is now beginning to expand these exercises to include other environments. The group has discussed ecology in general, and cultural ecology in particular, attempting to explain the cultural phenomena that prevent a contemporary American from perceiving himself as an organism participating in numerous systems with other organisms. Finally, the group has studied the socio-cultural value system and its role in environmental perception. All of this has been done to enable each teacher to perceive himself in relation to the environmental crisis, and in relation to what and how he teaches. Some of the teachers participating in the seminar are already utilizing the insights they have gained through the seminar in their teaching.

There has not as yet been a large-scale effort to work with student populations, but such work will begin in the near future. The seminar group is beginning to function as a "committee," whose task will be to design and coordinate a district-wide program designed to realize the educational objectives recognized last year by the School Board of Sedro Woolley School District. The committee, as individuals and as a group, will begin working extensively with student populations after the first of the year.

PROBLEMS

Task Force

Originally proposed as the first step in the project was the bringing together of a team of five consultants to synthesize data collected from a force of eighty specialists on environmental concepts. This synthesized material would then be used in the construction of a curriculum. Because a director for the project was not selected until mid-August, this aspect of the program is postponed until the actual writing of the curriculum begins. At this point, we are collecting data from consultants which we will synthesize in our seminar committee. Primary and secondary consultants will work directly with the committee rather than with administrators of the project, so that their suggestions will directly benefit those most closely involved in the writing of curriculum packages.

Student Participation

The project specified initially that student participation would be concentrated in grades 6 and 12. When participants for the teacher-training program were sought out, however, the response in the Sedro Woolley District was less at the Grade 12 level than at other grade levels. Since other grade levels are more accessible through participants in the seminar, we feel that it would be unrealistic at this point to confine our efforts to grade levels 6 and 12. A more promising approach seems to be the involvement of students of the teachers in the seminar, regardless of grade level. For instance,

one area of student involvement that looks promising at this point is Big Lake School, grades 1 through 6. This small school will lend itself well to participation of the entire school population rather than just the sixth graders. The two teachers from Big Lake who are seminar members propose to develop within a 5-mile radius an extensive series of local "environmental encounters" in cooperation with the other teachers in the school, and to devise a field-oriented program that will be continuous through a student's years in the school, rather than a one-time "field trip" type of program. It will be necessary to change the way in which the entire district is involved in curriculum work, but alternative methods for this involvement will be proposed by the committee. The entire curriculum can be approached from several directions rather than limiting the program to grades 6 and 12 this year, grades 2, 5, and 7 next year, and so forth. We will develop curricula at all possible grade levels in appropriate schools in the district.

One conclusion reached by the seminar group is that the strict segregation of students by grade level and subject matter may be confining, and may need restructuring in order to achieve the integrated view of the world essential to developing an ecological perspective. Though such an approach greatly complicates the neat approach to the K-12 continuum that was originally proposed, the broader program may be more productive.

Research

A tool for the measurement of attitudinal changes in the teachers involved in the seminar has been developed, as mentioned earlier. It is difficult to foresee how we can evaluate attitudinal and behavioral changes in student populations during the first year of the project. First, the budget for such measurement is not sufficient to support the development of reliable tests for student populations. Secondly, a curriculum being designed this year will not have been in practice long enough to adequately test student populations at the end of the present school year. Subjective evaluation of learning packages developed and used during the year will be possible, but reliable evaluation of the curriculum should be built into later stages of the project.

SIGNIFICANT FINDINGS AND EVENTS

The study of both environmental education and the educational environment has led to several major ideas that should be pursued in the context of this project.

1. An important factor in the environmental problem is that of environment perception. Man perceives the world in which he lives in a way that has led him to "control" and exploit it. His behavior in this world has led to deterioration of environment with actual or potentially deleterious effects on man's health and on the quality of his life. Culture, and notably technology, have intervened between man and his perception of himself as an organism among other organisms. The ecological perspective cannot be attained unless man can perceive the realities of his place in a world of organisms. With this perception

will come recognition of the nature and extent of the problems that man's behavior has brought upon him and upon the other parts of the systems in which he participates. This recognition of the problems may lead to a change in behavior on man's part that will enable him to survive.

A child can be taught to perceive. His behavior reflects his perception. If his behavior is harmful to the environment, then his perception has been skewed. He must be taught to perceive the world in a more ecologically responsible way. This is the task of education.

2. Man behaves according to the dictates of the values which he holds. If he values quantity over quality, for instance, he will choose the former at the potential expense of the latter. A set of values that stimulates actually or potentially deleterious behavior in the environment has been identifed, as have alternative values and consequent modes of behavior that are less harmful. These alternatives can be incorporated into the educational system and the student encouraged to make ecologically responsible decisions regarding the value system under which he will live and according to which he will behave.

3. The approach of modern education to the world is primarily reductionist and disciplinary in nature. The student receives a clear picture of the many parts of the world in which he lives but does not put them together in a meaningful whole. The approach to understanding the world that we call education is so compartmentalized that it becomes difficult for a student to perceive the effects of actions performed in one part of the whole on another part. There is a need for more interdisciplinary work in the educational system or a restructuring of the way in which subject matter is presented.

4. The old cliché that experience is the best teacher may be of great importance to environmental educators, and every teacher is to some extent an environmental educator. Field-oriented studies in which the student goes outside the confines of the classroom and the text should be utilized, and field-study methods should be more carefully worked out than has often been the case in the past. Great innovation and creativity are called for in using a non-classroom environment for public education.

The preceding are a few of the ideas that teachers in the seminar have been working with. The ideas are generalizations, and may even prove fallacious, but a study of the limitations of modern education, of the present environmental situation, and of the socio-economic value system which provides the context for both have stimulated them. The teachers plan to explore ways of working these ideas into the curriculum.

The relatively simple writing of learning packages and the bringing together of methods, materials, and ideas within the context of the established educational system will not bring about the necessary changes in behavior dictated by the environmental problems of today. Radical new

approaches to thinking and doing will be necessary. The ways and means for such a restructuring remain to be worked out; the project is an effort in this direction.

DISSEMINATION ACTIVITIES

None.

CAPITAL EQUIPMENT ACQUISITIONS

None.

DATA COLLECTION

None.

OTHER ACTIVITIES

None.

STAFF UTILIZATION

The position of project director was filled during the months of July and August by Roberta Ryan while the Northwest Environmental Education Center searched for a full-time project director. John Miles began as project director on September 1. There was little reason to hire a secretary during the first months of the project, and postponement of hiring a person in a secretarial capacity enabled us to hire a person of program assistant classification. Diane Merrill joined the project in this capacity on November 2.

FUTURE ACTIVITIES

Task Force

A letter is soon to be mailed to a number of specialists who represent fields of obvious significance to environmental educators such as regional planning, public administration, recreation, and forestry. These specialists are being asked to identify significant concepts in their areas of interest that should be included in an environmental education curriculum. The concepts will be compiled and the teachers in the seminar, with others in the district, will write learning packages based on these concepts. When the packages have been written, the specialists who suggested the concepts involved will be asked to evaluate the teacher's treatment of it.

Teacher Training

a. Seminar. The seminar group will continue to study the problems of environmental perception, socio-cultural values, and alternative futures.

The grade level organization, disciplinary structure, scheduling of activities, and administrative units of the Sedro Woolley School District will be examined and modifications necessary to pursue environmental goals will be proposed. The problems of continuous K-12 curriculum construction will be studied extensively. Such study will be conducted within the seminar, by the teachers in their own classrooms, and by the teachers during a minimum of ten days of investigation away from their teaching responsibilities.

b. "Committeework." Task groups of teachers, with the help of the project director and other resource personnel, will work district-wide on the curricular and administrative reforms that are necessary in pursuit of the environmental education objectives adopted by the school board. Committees will also begin programs to involve the Sedro Woolley community at large in the planning and implementation of the environmental education program.

c. Curriculum. During the winter and spring teachers will develop, individually and in groups, sections of an environmental education curriculum, portions of which will be designed with the K-12 continuum clearly in mind. Careful attention will be paid to the horizontal dimension of the curriculum as well. The teachers will develop learning packages in their respective fields of interest and will test these packages in their classrooms. A program of field study called "environmental encounters" will be developed. Primary work on environmental encounters will be done by the faculty and students of Big Lake School.

d. Publication. The learning packages, ideas, action programs, bibliographies, and other materials developed during the next phase of the project will be brought together in a journal and disseminated to the forty school districts involved with the Northwest Environmental Education Center. This device will encourage feedback that will be valuable in evaluating the progress of the project. Ultimately all that is learned from the Sedro Woolley model will be published for dissemination to other school districts.

e. Measurement. The battery of tests that was administered to the Sedro Woolley seminar group and to the control group in another district will be administered again in June and the results of the pre- and post-tests evaluated. The Environmental Awareness Survey will be evaluated as an instrument and planning for more extensive research into attitudinal and behavioral change will proceed.

f. Planning. The entire curriculum cannot be written during the first year of the project and planning for the continuance of the project must occur during the next report period. The curriculum writing task must be continued and completed and rigorous evaluation of the curriculum carried out during the next two years.